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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,430	10/01/2003	Tomiyuki Mitsunaga	2003-1389A	5655

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EXAMINER

NGUYEN, TAN QUANG

ART UNIT PAPER NUMBER

3661

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

f

Office Action Summary

Application No.

10/674,430

Applicant(s)

MITSUNAGA ET AL.

Examiner

TAN Q NGUYEN

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 9-11 is/are allowed.
6) ☒ Claim(s) 1-3 and 6 is/are rejected.
7) ☒ Claim(s) 4,5,7 and 8 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/01/03, 01/29/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAIL ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-11 are pending.
2. The prior art submitted on October 1, 2003 and January 29, 2004 have been considered.
3. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which have been placed of record in the file.
4. Figure 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3661

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Bode et al. (6,249,246).

7. Bode et al. disclose the invention as claimed which includes an antenna section including at least an antenna element for receiving a high frequency signal from an external position system (see figure 2, items 2 and GPS receiver), a sensor section including a gyro sensor for detecting an angular velocity of the mobile unit and an acceleration for detecting an acceleration of the mobile unit (see figure 2, items 3 and 4, and column 3, lines 3-36), and a combining circuit including at least a first signal line through which the high frequency signal output from the antenna section is sent (see figure 2, line 2), and second signal line through which a signal out from the sensor section is sent (see figure 2, item 6) and a node which is a connecting point of the first signal and second signal line (see figure 2, line 9). Bode et al. further disclose a case for accommodating the antenna section, the sensor section, and the combination circuit (see figure 2, item 11).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bode as applied to claims 1 and 2 above, and further in view of Horton (6,647,352).

11. With respect to claim 3, Bode discloses the claimed invention as discussed above. Bode further disclose that the sensor section further includes a Kalman filter but not an A/D converter, a processor and a digital modulator. However, such features are well known at the time the invention was made and as shown in at least figure 2 of the Horton reference. It would have been obvious to incorporate the teaching of Horton into the system of Bode in order to perform various calibration and operational routines of the signal from the gyro sensor and acceleration sensor.

12. With respect to claim 6, Bode et al. disclose that the sensor section further includes a barometer pressure and a temperature sensor and they are connected to the Kalman filter (see at least figure 2, items 7, 12 and column 2, lines 54-65). Similar to claims 3, such Kalman filter should have an A/D converter for processing the temperature and barometer signals.

13. Claims 4, 5, 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 9-11 are allowable. None of the prior art of record discloses a frequency of the carrier is lower than a lower limit of an occupied frequency bandwidth of the high-

Art Unit: 3661

frequency signal (claim 4). Furthermore, none of the prior art of record disclose the high-frequency signal is sent from the GPS as the position system has a center frequency of 1.575 GHz, and the modulated signal is generated by digitally modulating an amplitude of a carrier having a frequency of 500 kHz with the data unit (claim 5). Also, the limitations recited in claims 8-11 render the claims non-obvious over the prior art of record.

Conclusion

15. Claims 1-3 and 6 are rejected. Claims 4, 5, 7 and 8 are objected. Claims 9-11 are allowable.

16. The following references are cited as being of general interest: Lipman (6,037,893), Lin (6,127,970), Diesel (6,298,316), Soehren et al. (6,522,266), Meyer (6,641,090), Ford et al. (6,721,657), and Pinto et al. (6,754,584).

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Tan Q. Nguyen, whose telephone number is (703) 305-9755. The examiner can normally be reached on Monday-Thursday from 5:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black, can be reached on (703) 305-8233.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to the Official Fax Center:

(703) 872-9306, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

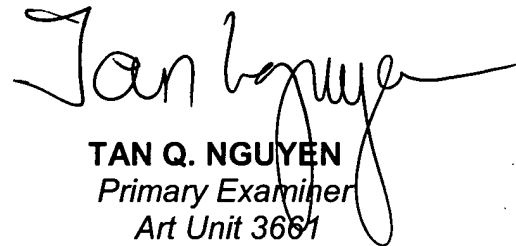
Hand-delivered responses should be brought to Crystal Park V, 2451
Crystal Drive, Arlington, VA., Seventh Floor (Receptionist).

Art Unit: 3661

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/tqn
February 22, 2005


TAN Q. NGUYEN
Primary Examiner
Art Unit 3661